

REMARKS

Upon entry of the Amendment, Claims 1-5 and 7-18 are all the claims pending in the application. Claim 6 is canceled.

The Request for Continued Examination filed concurrently herewith requests entry of the Amendment under 37 C.F.R. § 1.116 which was filed on May 24, 2005.

Entry of the present Amendment under 37 C.F.R. § 1.114(c) is respectfully requested along with reconsideration and review of the claims on the merits.

Claim Rejection Under 35 U.S.C. § 103

Claims 1-18 are rejected under 35 U.S.C. § 103(a) as assertedly being unpatentable over Eastman (U.S. Patent No. 4,274,479) in view of Noren (U.S. Patent No. 3,680,189), for the reasons of record.

Applicants traverse the rejection and respond as follows.

Applicants claim a heat pipe having a flat-thin shaped section, a porous body, and a direct reflux flow passage formed between the porous body and an inner face of a container portion of the heat pipe where the porous body is mounted.

The combination of Eastman with Noren fails to render obvious the claimed invention.

Eastman's heat pipe embodiments are structurally circular in form with symmetrically spaced longitudinal grooves in the tubular wick along the length of the heat pipe. However, Eastman's grooves are formed on the side of the wick opposite the inner face of the metal cylinder (see Figs. 1-8). Thus, Eastman fails to disclose or teach a direct reflux flow passage formed between the porous body and an inner face of the container where the porous body is mounted, according to the present invention.

As Noren discloses flat heat pipe structures, one skilled in the art would not be motivated to apply Noren's teaching for a flat heat pipe structure to Eastman's circular heat pipe structure. Thus, the combination of these two references is not motivated.

Even if the combination of Eastman and Noren were motivated, which they cannot be, Noren still fails to make up for Eastman's deficiencies.

Although Noren discloses flat heat pipe structures in general, Noren specifically teaches that the internal wick is made of a tubular wire screen member (element 16 in Fig. 1) (see col. 3, lines 63-66). However, Noren fails to disclose a direct reflux flow passage, much less a direct reflux flow passage according to the present invention. Thus, the combination of Eastman and Noren fails to render obvious at least the formation of the reflux flow passage between the porous body and an inner face of the flat thin-shaped section of the container where the porous body is mounted.

The present invention provides benefits over the prior art. The present invention prevents problems, for example, such as "dryout" where a portion of the heat pipe where the working fluid is insufficient is dried. For overcoming "dryout", a direct reflux flow passage connecting the condensing part and the evaporating part is formed between the inner face of the container and the porous wick mounted on the inner face. The direct reflux flow passage enables the working fluid not only to flow back to the evaporating part promptly, but also to be kept therein when the heat pipe is not operated. Consequently, ample amount of the working fluid can be kept in the evaporating side, and the problem of "dryout" is thereby prevented even when a large amount of the heat is inputted.

Applicants submit that the present invention of claim 1 is patentable over the cited references, and that claims 2-18 are also patentable at least for the same reasons given above since these claims ultimately depend on claim 1.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a).

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

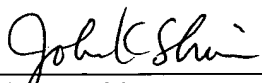
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